App No.: 10/561,448 Docket No.: 58086-226455 Inventor: Shimon Weiss

Title: MODULATED EXCITATION FLUORESCENCE ANALYSIS

REPLACEMENT SHEET 1/16

REPLACEMENT SHEET Sheet 1 of 16

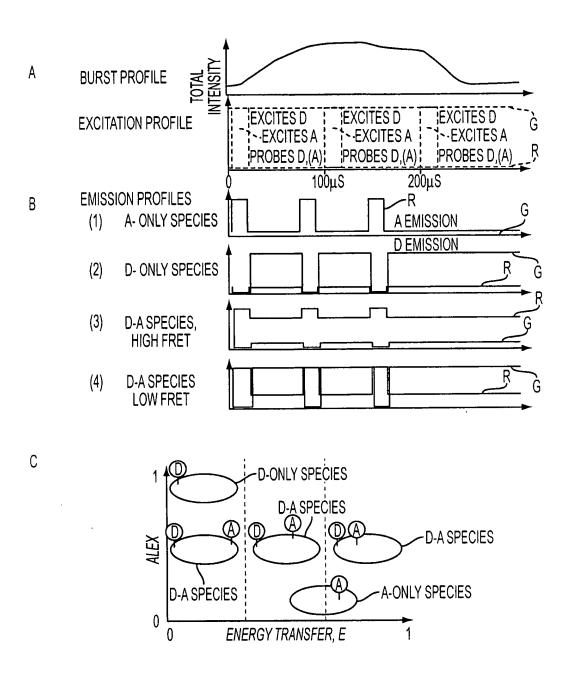


FIG. 1

# REPLACEMENT SHEET 2/16

App No.: 10/561,448
Docket No.: 58086-226455
Inventor: Shimon Weiss
Title: MODULATED EXCITATION
FLUORESCENCE ANALYSIS
REPLACEMENT SHEET Sheet 2 of 16

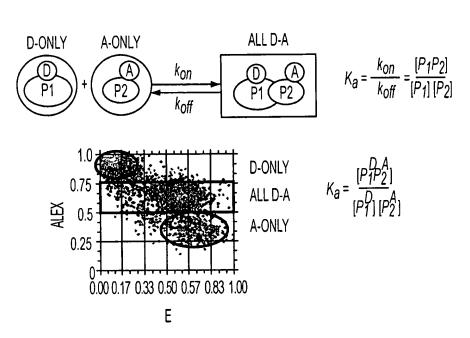


FIG. 2

App No.: 10/561,448 Docket No.: 58086-226455 Inventor: Shimon Weiss
Title: MODULATED EXCITATION
FLUORESCENCE ANALYSIS
REPLACEMENT SHEET
S

Sheet 3 of 16

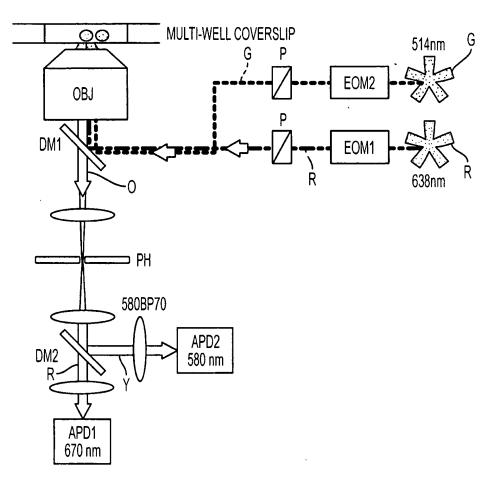
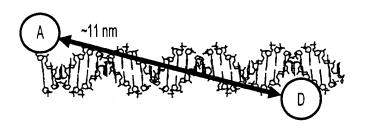
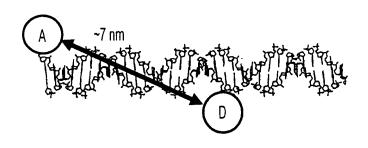


FIG. 3

REPLACEMENT SHEET 4/16

App No.: 10/561,448
Docket No.: 58086-226455
Inventor: Shimon Weiss
Title: MODULATED EXCITATION
FLUORESCENCE ANALYSIS
REPLACEMENT SHEET Sheet 4 of 16





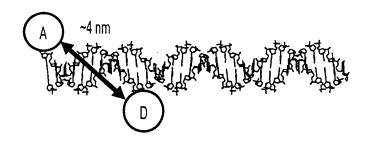


FIG. 4A

REPLACEMENT SHEET 5/16

App No.: 10/561,448
Docket No.: 58086-226455
Inventor: Shimon Weiss
Title: MODULATED EXCITATION
FLUORESCENCE ANALYSIS
REPLACEMENT SHEET
Sheet 5 of 16

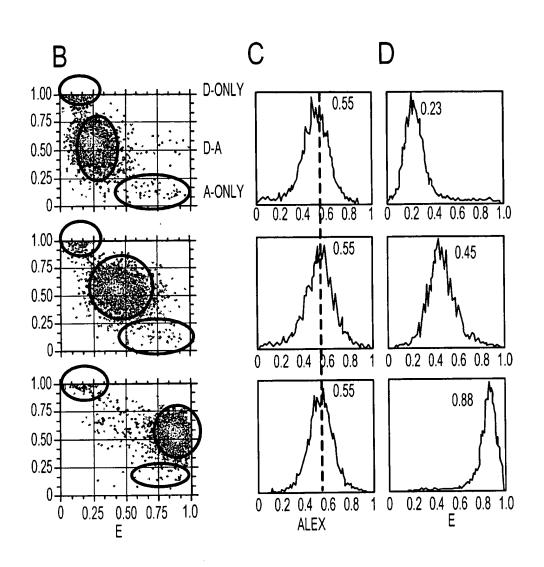
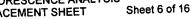


FIG. 4

### REPLACEMENT SHEET 6/16

App No.: 10/561,448
Docket No.: 58086-226455
Inventor: Shimon Weiss
Title: MODULATED EXCITATION
FLUORESCENCE ANALYSIS
REPLACEMENT SHEET



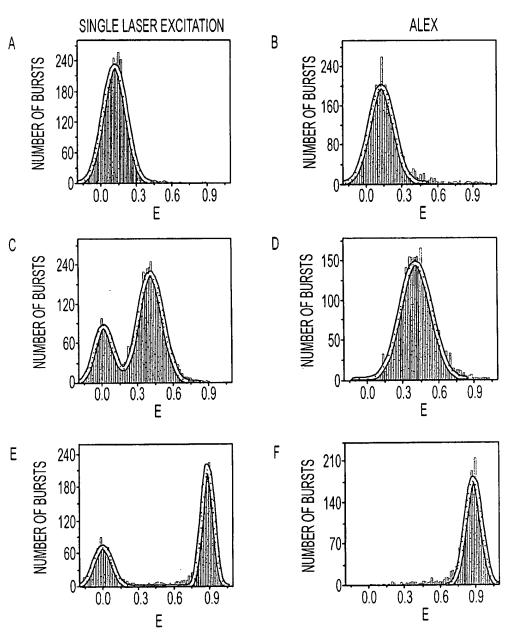


FIG. 5

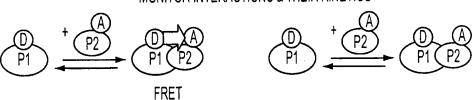
REPLACEMENT SHEET 7/16

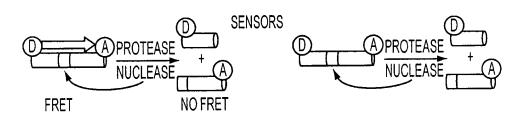
App No.: 10/561,448
Docket No.: 58086-226455
Inventor: Shimon Weiss
Title: MODUL ATED EXCITA:

Title: MODULATED EXCITATION FLUORESCENCE ANALYSIS

REPLACEMENT SHEET Sheet 7 of 16

#### MONITOR INTERACTIONS & THEIR KINETICS



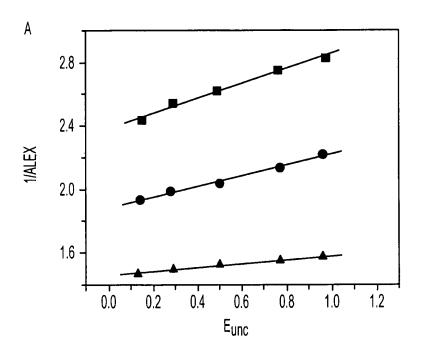


FRET-BASED ASSAY: DISTANCE-CONSTRAINED ALEX-FRET-BASED ASSAY: NO DISTANCE CONSTRAINED (FRET CAN BE 0-100%)

FIG. 6

REPLACEMENT SHEET 8/16

App No.: 10/561,448
Docket No.: 58086-226455
Inventor: Shimon Weiss
Title: MODULATED EXCITATION
FLUORESCENCE ANALYSIS
REPLACEMENT SHEET
Sheet 8 of 16



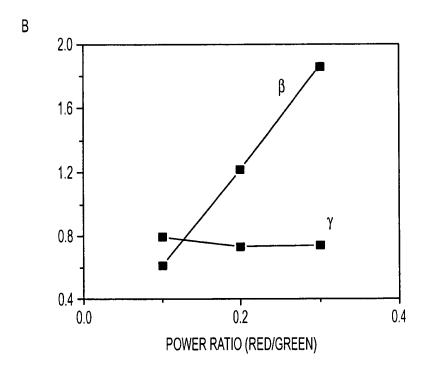


FIG. 7

REPLACEMENT SHEET
9/16

App No.: 10/561,448
Docket No.: 58086-226455
Inventor: Shimon Weiss
Title: MODULATED EXCITATION
FLUORESCENCE ANALYSIS
REPLACEMENT SHEET Sheet 9 of 16

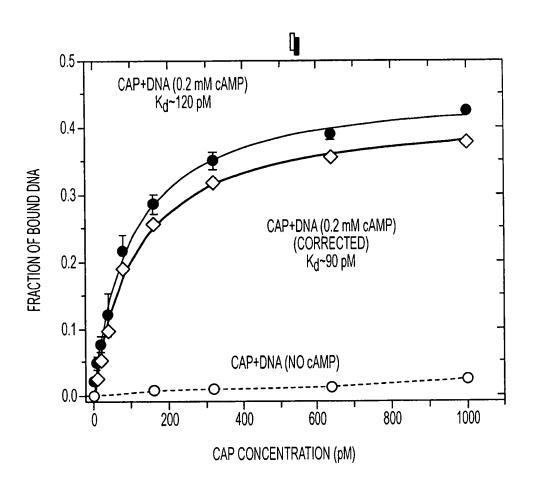


FIG. 8

REPLACEMENT SHEET 10/16

App No.: 10/561,448
Docket No.: 58086-226455
Inventor: Shimon Weiss
Title: MODULATED EXCITATION
FLUORESCENCE ANALYSIS
REPLACEMENT SHEET
Sheet 10 of 16

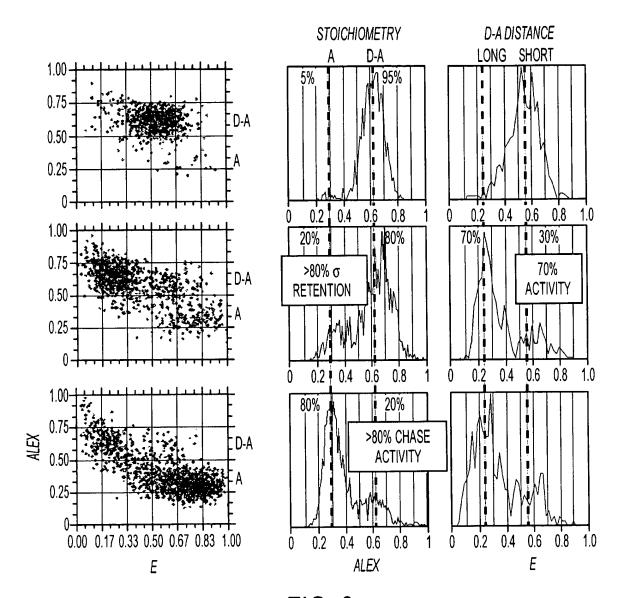


FIG. 9

REPLACEMENT SHEET 11/16

App No.: 10/561,448
Docket No.: 58086-226455
Inventor: Shimon Weiss
Title: MODULATED EXCITATION
FLUORESCENCE ANALYSIS
REPLACEMENT SHEET Sheet 11 of 16

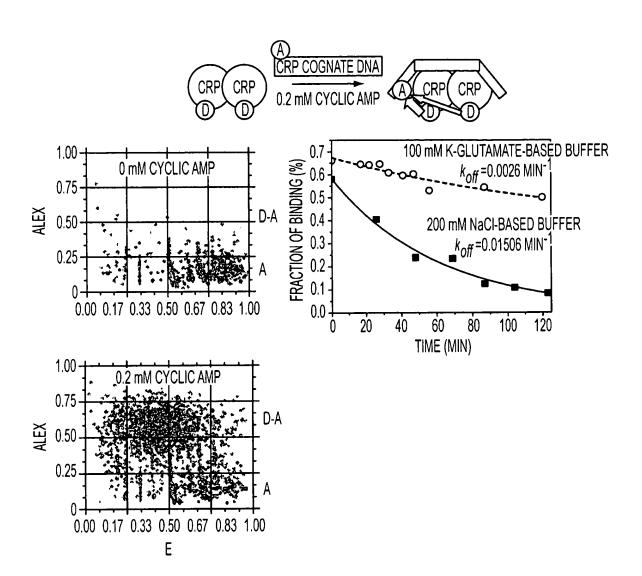
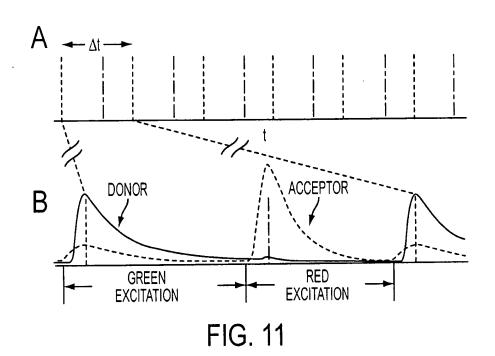


FIG. 10

REPLACEMENT SHEET 12/16

App No.: 10/561,448
Docket No.: 58086-226455
Inventor: Shimon Weiss
Title: MODULATED EXCITATION
FLUORESCENCE ANALYSIS
REPLACEMENT SHEET Sheet 12 of 16



App No.: 10/561,448
Docket No.: 58086-226455
Inventor: Shimon Weiss
Title: MODULATED EXCITATION
FLUORESCENCE ANALYSIS
REPLACEMENT SHEET
Sh

Sheet 13 of 16

### REPLACEMENT SHEET 13/16

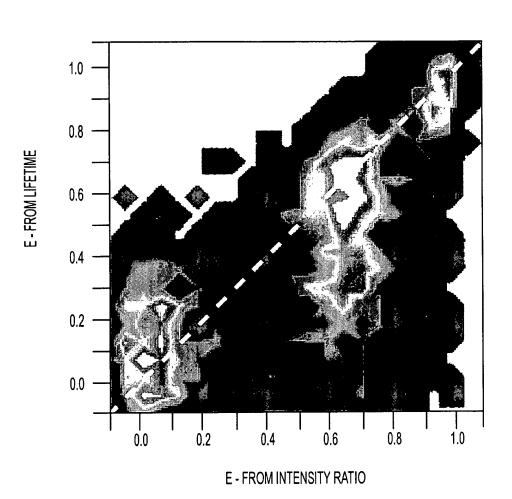


FIG. 12

REPLACEMENT SHEET 14/16

App No.: 10/561,448
Docket No.: 58086-226455
Inventor: Shimon Weiss
Title: MODULATED EXCITATION
FLUORESCENCE ANALYSIS
REPLACEMENT SHEET Sheet 14 of 16

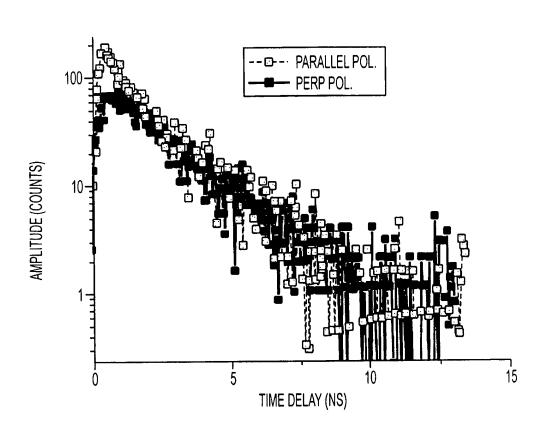


FIG. 13

## REPLACEMENT SHEET 15/16

App No.: 10/561,448
Docket No.: 58086-226455
Inventor: Shimon Weiss
Title: MODULATED EXCITATION
FLUORESCENCE ANALYSIS
REPLACEMENT SHEET Sheet 15 of 16

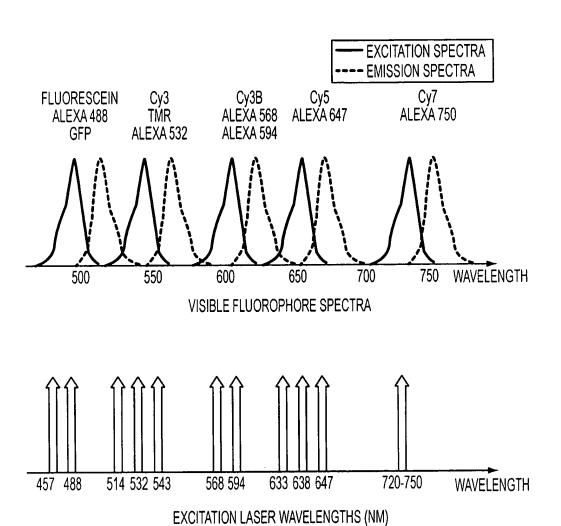
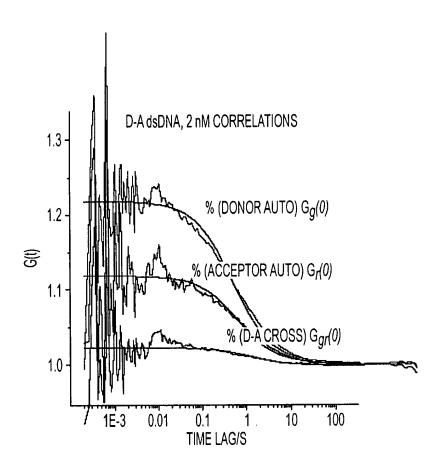


FIG. 14

#### REPLACEMENT SHEET 16/16

App No.: 10/561,448 Docket No.: 58086-226455 Inventor: Shimon Weiss Title: MODULATED EXCITATION **FLUORESCENCE ANALYSIS** Sheet 16 of 16 REPLACEMENT SHEET



S) NORMALIZED SUBPOPULATION 
$$Y_D + Y_{DA} + Y_{DA} = 1$$

$$Gg(0) = \frac{1}{NTOTAL} - \frac{Y_D + Y_{DA}(1-E)^2}{[Y_D + Y_{DA}(1-E)^2]}$$

$$Gr(0) = \frac{1}{NTOTAL} - \frac{Y_{DA}E^2k^2 + Y_{A}}{(Y_{DA}Ek + Y_{A})^2}$$

$$Ggr(0) = \frac{1}{NTOTAL} - \frac{Y_{DA}E^2k^2 + Y_{A}}{[Y_D + Y_{DA}(1-E)][Y_{DA} + Ek + Y_{A}]}$$

 $Y_D + Y_{DA} + Y_{DA} = 1$ 

FIG. 15